Sunnyvale

Water Pollution Control Plant
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January 30, 2018

Director of Compliance and Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105

Attn: Title V Reports

Re: Semiannual Monitoring Report for Facility No. A0733

As required by Section I Part F of the subject Title V permit, the City of Sunnyvale Water Pollution Control Plant (Facility No. A0733) is submitting this Semiannual Monitoring Report for the period from July 1, 2017 through December 31, 2017. After reasonable inquiry, we conclude the following regarding this period of operation:

- There was one (1) 54-day deviation of the 15-day limit on inoperation of a parametric monitor for source S-15;
- There was one (1) 10-day deviation of the 200 mmBTU daily input heat value (IHV) limit for source S-14;
- All reports were submitted on time;
- All CEM QA procedures, methodologies, and maintenance were performed as required.

PGF Parametric Monitor [1-523.2]:

For each of the days from October 6 through November 28, 2017, the City did not comply with the 15-day limit on inoperation of a parametric monitor set by Rule 1-523.2 for source S-15. The City was issued a Notice of Violation No. A55661 on December 5, 2017, for this deviation. It is highly unlikely that any emissions exceeded permitted limits due to the inoperable flow meter on S-15; only the measuring of flow was affected.

On September 20, 2017, the gas flow meter (parametric monitor) for one of the facility's two power generating engines (S-15) ceased unexpectedly and was no longer operable. Per the applicable requirements set by BAAQMD rule 1-523.1, the City of Sunnyvale (City) submitted the required RCA report (ID No. 07E61) on September 21, 2017, to report the parametric monitor period of inoperation greater than 24 continuous hours for S-15. The S-15 gas flow meter remained inoperable until a new flow meter was installed on the engine on November 29, 2017, following a long lead time from the manufacturer for a replacement flow meter. A 30-day report was submitted to BAAQMD

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on October 19, 2017, which provides greater detail into the reason for the non-compliant downtime as well as corrective action measures taken. The WPCP remained in compliance with all parametric monitor requirements for the remainder of the reporting period.

PGF Input Heat Limits Monitoring [Condition 10844 (2)]:

S-14 and S-15 gas throughput for each fuel type is monitored continuously at five-second intervals on a daily basis, well in compliance with the required 15-minute interval. Monthly samples are collected from each fuel stream and analyzed for the high-heat value, which is used with the gas throughput to calculate the daily and consecutive 12-month total heat inputs for each engine in order to determine compliance with the respective limits.

For each of the 11-days from August 15 through August 25, 2017, following several discussions with and guidance from the Compliance and Enforcement Division, the City entered into a period of planned non-compliance with the 200 mmBTU daily input heat value (IHV) limit for sources S-14 in order to successfully break-in the engine following a major overhaul. During the period of non-compliance, the daily IHVs for S-14 ranged from 206 - 219 mmBTU (3% - 9.5% exceedances). The excursions did not result in excess emissions.

Pursuant to the requirements, a 10-day and 30-day Deviation Report were submitted to BAAQMD on August 25 and September 14, 2017, respectively, which provide greater detail into the nature of the 10-day excursion as well as emission concentration monitoring that was performed during the period of non-compliance.

The IHV values for both engines were maintained below the 200 MMBTU limit for the remainder of the reporting period. Furthermore, the WPCP remained in compliance with the 72,000 MMBTU annual total limit throughout the reporting period.

PGF Annual Source Test [Condition 10844 (4, 6)]:

The Annual Source Tests for S-14 and S-15 were conducted on June 29, 2017, and December 11, 2017, respectively, and the analytical results were submitted to BAAQMD on August 10, 2017, and January 18, 2018, respectively. All results were in compliance with the emission limits and regulations specified in the permit.

PGF Quarterly Emissions Monitoring [9-8-503, 9-8-302.1, 9-8-302.3]:

Third and Fourth quarter emissions monitoring events for S-14 and S-15 were conducted on July 7, 2017, and October 20, 2017. All results were in compliance with the applicable emissions limits of 70 ppm NOx and 2,000 ppm CO.

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Sulfur Compounds Monitoring [Condition 19978 (2)]:

Total reduced sulfur compounds in the digester gas used to operate S-16, S-17, and S-18 are monitored quarterly. The results provided in the following table demonstrate compliance with the 1,550 ppmvd limit:

Total Reduced Sulfur Compounds – Draeger Tube Test results				
Sources: S-16, 17 & 18	Date of Test	Requirement	Result ppmv (dry)	Compliant (Y/N)
Third Quarter Sampling:				
Digester Gas	7/5/2017	19978 (2)	800	Y
Fourth Quarter Sampling:				
Digester Gas	11/15/2017	19978 (2)	640	Y

Landfill Gas Component System Leak Testing [8-34-301.2]:

Third and fourth quarter monitoring events were conducted on July 26 and December 2, 2017, to identify any presence of organic compound concentrations above the permit limit of 1,000 ppmv, measured as methane, associated with the landfill gas system components on the facility.

During the third quarter monitoring event, component/leak emissions testing of the LFG conveyance piping was performed and detected methane gas concentration up to 2,000 ppmv at the Blower No. 2 outboard bearing gasket. Blower No. 2 was immediately taken offline and Blower No. 1 was started to maintain compliance. Following completion of gasket replacement and additional repairs by City personnel, subsequent re-testing in the location of the gasket, on July 31, August 22 and September 23, 2017, continued to show fluctuating methane gas concentration of 500 to 1500 ppm. Blower No. 2 remained offline until October 18, 2017, when testing verified that repairs had been successful and methane concentrations had returned to below compliance limits at the Blower No. 2 outboard bearing gasket. Operation of Blower No. 1 indicated compliance on every testing date. No other compliance issues were detected during this reporting period.

RICE Oil Change Frequency [Table 2d.13 of NESHAP 63.6603(a)]:

During the reporting period, there was no exceedances of the oil and filter change and hose and spark plug inspection 1,440-hour limit established in Table 2d.13 of NESHAP 63.6603(a) for all applicable RICE engines at the facility.

Landfill Gas Emission Control System [8-34-113.2]:

During the reporting period, the LFG emission control system was in compliance with the shutdown time limitation of ≤ 240 hours/year.

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Emergency Blackstart Generator Reliability-Related Activities [Condition 19929 (3)]:
During the reporting period, reliability-related activities performed on the emergency blackstart generator (S-19) were in compliance with the limitation of ≤ 100 hours/year.

Emergency Standby Diesel Generator Reliability-Related Activities [Condition 22850 (1)]:
During the reporting period, reliability-related activities performed on the emergency standby diesel generator (S-26) were in compliance with the limitation of ≤ 50 hours/year.

I am the responsible person for the City of Sunnyvale Water Pollution Control Plant, and I certify that this report is true, accurate, and complete.

Please contact me at (408) 730-7740 if you have any questions or comments on this report.

Sincerely,

Melody Tovar, P.E.
Interim Director,
Environmental Services Department